

RTIP ID# <i>(required)</i> LAE2198				
Project Description <i>(clearly describe project)</i> Under the proposed Build Alternative, the I-405 and Avalon Blvd intersection would be reconfigured to provide access to and from the future Carson Marketplace project (Southwest of the intersection), extend Lenardo Dr. to Avalon Blvd, realign and reconfigure existing ramps at Avalon Blvd; and construct a new SN on-ramp (See attached figures). The proposed project would: <ul style="list-style-type: none"> ▪ Extend Lenardo Drive to Avalon Blvd (including constructing a new bridge over Torrance Lateral storm channel); ▪ Realign and reconstruct the existing SB I-405 off-ramp to connect to the proposed Lenardo Dr. extension; ▪ Realign existing SB on-ramp next to terminus of the reconstructed SB I-405 off-ramp for access by HOVs only; ▪ Construct a new SB on-ramp east of Avalon Blvd for access by mixed flow from NB Avalon Blvd and EB Lenardo Dr.; ▪ Realign and widen the existing NB off-ramp from 1 lane to 3 lanes (at the its terminus only); ▪ Realign the existing NB on-ramp and signalize the existing right-turn lane from SB Avalon Blvd; and ▪ Modify the existing Avalon Blvd to accommodate additional turning movements anticipated by the proposed realignment, addition of ramps, and extension of Lenardo Dr. 				
Type of Project <i>(use Table 1 on instruction sheet)</i> Reconfigure Existing Interchange				
County Los Angeles	Narrative Location/Route & Postmiles LA-405 PM 10.8/11.4, at Avalon Blvd interchange, approximately 1.3 miles south of I-405/I-110 Interchange Caltrans Projects – EA# 23399			
Lead Agency: Caltrans				
Contact Person Andrew Yoon	Phone# 213.897.6117	Fax# 213.897.1634	Email Andrew.Yoon@dot.ca.gov	
Hot Spot Pollutant of Concern <i>(check one or both)</i> PM2.5 X PM10 X				
Federal Action for which Project-Level PM Conformity is Needed <i>(check appropriate box)</i>				
X	Categorical Exclusion (NEPA)	EA or Draft EIS	FONSI or Final EIS	PS&E or Construction
Other				
Scheduled Date of Federal Action: September 6, 2007				
Current Programming Dates <i>as appropriate</i>				
	PE/Environmental	ENG	ROW	CON
Start	1/23/03	9/7/07	10/31/08	1/28/09
End	9/6/07	9/5/08	10/17/08	4/5/10

Project Purpose and Need (Summary): *(attach additional sheets as necessary)*

The need for the modification of the I-405/Avalon Boulevard interchange was first identified in the early 1990s as one of the conditions of approval for a then proposed development referred to as the Metro 2000 Project, a regional shopping mall to be constructed at the southwest quadrant of the interchange. The modification was proposed as the most effective way of mitigating impacts of that project.

The Metro 2000 Project did not move forward. However, continued interest in development of the former Metro 2000 Project site culminated with the approval of the Carson Marketplace Project in February 2006. The currently proposed Carson Marketplace Project is a 168-acre, mixed-use development with neighborhood commercial, regional commercial, recreation/entertainment, restaurant, hotel, and residential uses. The Carson Marketplace Project, like the Metro 2000 Project, requires the proposed improvements for the I-405/Avalon Boulevard interchange for its full implementation.

Without implementation of the Build Alternative, considerable reductions in the level of traffic services at numerous intersections in the project vicinity would occur, as indicated in the analysis of service levels at the 14 most impacted intersections in the project vicinity. Under the current conditions, none of the intersections is operating at level E or F during any peak hour. At the 2030 design year, service levels under the No Build Alternative would be at LOS E or F at four intersections with reduced service elsewhere in the system. Particularly affected would be the intersections of Main Street and Carson Street (with delays increasing from 42.5 seconds to 162.0 seconds in the P.M. peak hour), Main Street and Torrance Boulevard (with delays increasing from 26.6 seconds to 114.2 seconds in the P.M. peak hour) and Avalon Boulevard and Del Amo Boulevard (with delays increasing from 30.6 seconds in the P.M. peak hour to 98.4 seconds in the P.M. peak hour).

The expected development of the Metro 2000/Carson Marketplace Project site, and the related improvements have been considered by the City in the preparation of their 2004 update to the City of Carson General Plan. The improvements were incorporated into traffic studies and in the selection of future land use designations. The proposed improvements would support development of the Carson Marketplace Project and would also meet the needs of otherwise growing traffic volumes in the project vicinity.

The project is proposed to accomplish the following purposes:

- Provide congestion relief from existing and future operating conditions at the intersection of I-405 and Avalon Boulevard.
- Link the Carson Marketplace Project site as well as other areas west of the I-405 with a direct route to the I-405 Freeway.
- Provide a balanced circulation system, reduce out of direction travel, reduce vehicle miles traveled, and provide traffic relief for other intersections in the vicinity.
- Support existing plans of the City of Carson and its economic development.
- Support continued development of parcels on the west side of the City of Carson, pursuant to City Plans and Policies, and market forces for development within the City.
- Support the City's effort to implement development in accord with adopted Redevelopment Plans

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*

The project site is situated in a built urban area, surrounded by an array of commercial uses, with residential and service uses lying in a larger perimeter. One large vacant parcel lies next to the project site. This site is intended for development of the Carson Marketplace, a 168-acre, mixed-use development with neighborhood commercial, regional commercial, commercial recreation/entertainment, restaurant, hotel, and residential uses.

Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility**Year 2010:**

The percentage of truck traffic was obtained from the California DOT's Traffic and Vehicle Data Systems Unit. As this project is not a traffic-generating project, it is assumed that the percentage of truck traffic will remain the same over time. The proposed Build Alternative involves improvements for the intersections and ramps that provide access to and from the I-405 freeway. The project does not propose enhancements to the main-line freeway that would increase the freeway capacity.

	No Build				Build			
	LOS ¹		AADT ²	Truck AADT	LOS		AADT	Truck AADT
Intersection Location	AM	PM			AM	PM		
Avalon Boulevard & I-405 NB Ramps								
- Intersection	A	B	68,255	1,638	B	D	70,814	1,700
- On Ramp	F	F	17,415	418	F	F	17,861	429
- Off Ramp	D	E	8,583	206	E	F	12,126	291
Avalon Boulevard & Lenardo Drive/I-405 SB Ramps								
- Intersection	B	A	67,034	1,609	B	B	59,409	1,426
- On Ramp (New Ramp – E of Avalon)	n/a	n/a	n/a	n/a	C	F	3,845	92
- On Ramp* (Existing Ramp)	C	F	8,596	206	n/a	n/a	n/a	n/a
- Off Ramp**	E	F	18,898	454	n/a	n/a	n/a	n/a
I-405 SB Ramps & Lenardo Drive								
- Intersection	n/a	n/a	n/a	n/a	B	B	25,302	607
- On Ramp*	n/a	n/a	n/a	n/a	C	F	8,727	209
- Off Ramp**	n/a	n/a	n/a	n/a	E	F	19,173	460

¹ LOS for ramps reflect the ramp-freeway junctions area of influence.

² AADT is based on the conversion of P.M. peak hour trips. Existing studies indicate that 7.62% of the trips in the vicinity occur during the P.M. peak hour.

* The two ramps with the * mark reflect the same ramp connection at the freeway. Under the No Build Alternative, they originate at Avalon Boulevard. Under the Build Alternative, they originate at Lenardo Drive.

** The two ramps with the ** mark reflect the same ramp connection at the freeway. Under the No Build Alternative, they outlet at Avalon Boulevard. Under the Build Alternative, they outlet at Lenardo Drive.

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Year 2030:

The percentage of truck traffic was obtained from the California DOT's Traffic and Vehicle Data Systems Unit. As this project is not a traffic generating project, it is assumed that the percentage of truck traffic will remain the same over time. The proposed Build Alternative involves improvements for the intersections and ramps that provide access to and from the I-405 freeway. The project does not propose enhancements to the main-line freeway that would increase the freeway capacity.

	No Build				Build			
	LOS ¹		AADT ²	Truck AADT	LOS		AADT	Truck AADT
Intersection Location	AM	PM			AM	PM		
Avalon Boulevard & I-405 NB Ramps								
- Intersection	A	B	75,066	1,802	B	D	72,572	1,742
- On Ramp	F	F	17,415	418	F	F	18,819	452
- Off Ramp	E	E	8,583	206	E	F	12,520	300
Avalon Boulevard & Lenardo Drive/I-405 SB Ramps								
- Intersection	B	B	63,176	1,516	B	B	70,525	1,693
- On Ramp (New Ramp – E of Avalon)	n/a	n/a	n/a	n/a	C	F	3,845	92
- On Ramp* (Existing Ramp)	C	F	8,596	206	n/a	n/a	n/a	n/a
- Off Ramp**	F	F	18,898	454	n/a	n/a	n/a	n/a
I-405 SB Ramps & Lenardo Drive								
- Intersection	n/a	n/a	n/a	n/a	B	B	43,714	1,049
- On Ramp*	n/a	n/a	n/a	n/a	C	F	10,223	245
- Off Ramp**	n/a	n/a	n/a	n/a	F	F	20,315	488

¹ LOS for ramps reflect the ramp-freeway junctions area of influence.

² AADT is based on the conversion of P.M. peak hour trips. Existing studies indicate that 7.62% of the trips in the vicinity occur during the P.M. peak hour.

* The two ramps with the * mark reflect the same ramp connection at the freeway. Under the No Build Alternative, they originate at Avalon Boulevard. Under the Build Alternative, they originate at Lenardo Drive.

** The two ramps with the ** mark reflect the same ramp connection at the freeway. Under the No Build Alternative, they outlet at Avalon Boulevard. Under the Build Alternative, they outlet at Lenardo Drive.

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

	No Build		Build	
Cross-Street Segment	AADT	Truck AADT	AADT	Truck AADT
Avalon Boulevard between NB and SB Ramps	50,197	1,205	53,268	1,278
Lenardo Drive between Ramps and Avalon Blvd.	n/a	n/a	35,406	850

RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

	No Build		Build	
Cross-Street Segment	AADT	Truck AADT	AADT	Truck AADT
Avalon Boulevard Between NB Ramps and SB Ramps	54,331	1,304	55,604	1,334
Lenardo Drive Between Ramps and Avalon Blvd.	n/a	n/a	36,834	885

Describe potential traffic redistribution effects of congestion relief (*impact on other facilities*)

This project would improve traffic conditions in the surrounding area by providing a direct link between the Carson Marketplace site and the I-405 interchange, thereby redistributing a considerable number of trips from circuitous routes to the interchange. This redistribution would result in a reduction in VMT and the number of intersections encountered, lowering the ADT through the nearby intersections.

The potential traffic redistribution as a result of the Build alternative would result in a net traffic benefit and reduce congestion in the project vicinity. The project will improve or maintain LOS service levels at 13 of the 14 intersections analyzed, except at the Avalon Blvd/NB I-405 ramps intersection.

The LOS is shown as increased at the Avalon Blvd and NB I-405 intersection because of the addition of a new left-turn movement from the northbound off-ramp onto southbound Avalon Boulevard, with changes in the signalization phasing. Notwithstanding, the increase in the future LOS level at this intersection would still be LOS B in the A.M. peak hour and LOS D in the P.M. peak hour; and the overall number of trips through this particular intersection would be reduced by 2030 (from AADT of 75,066 without project to 72,572 with project).

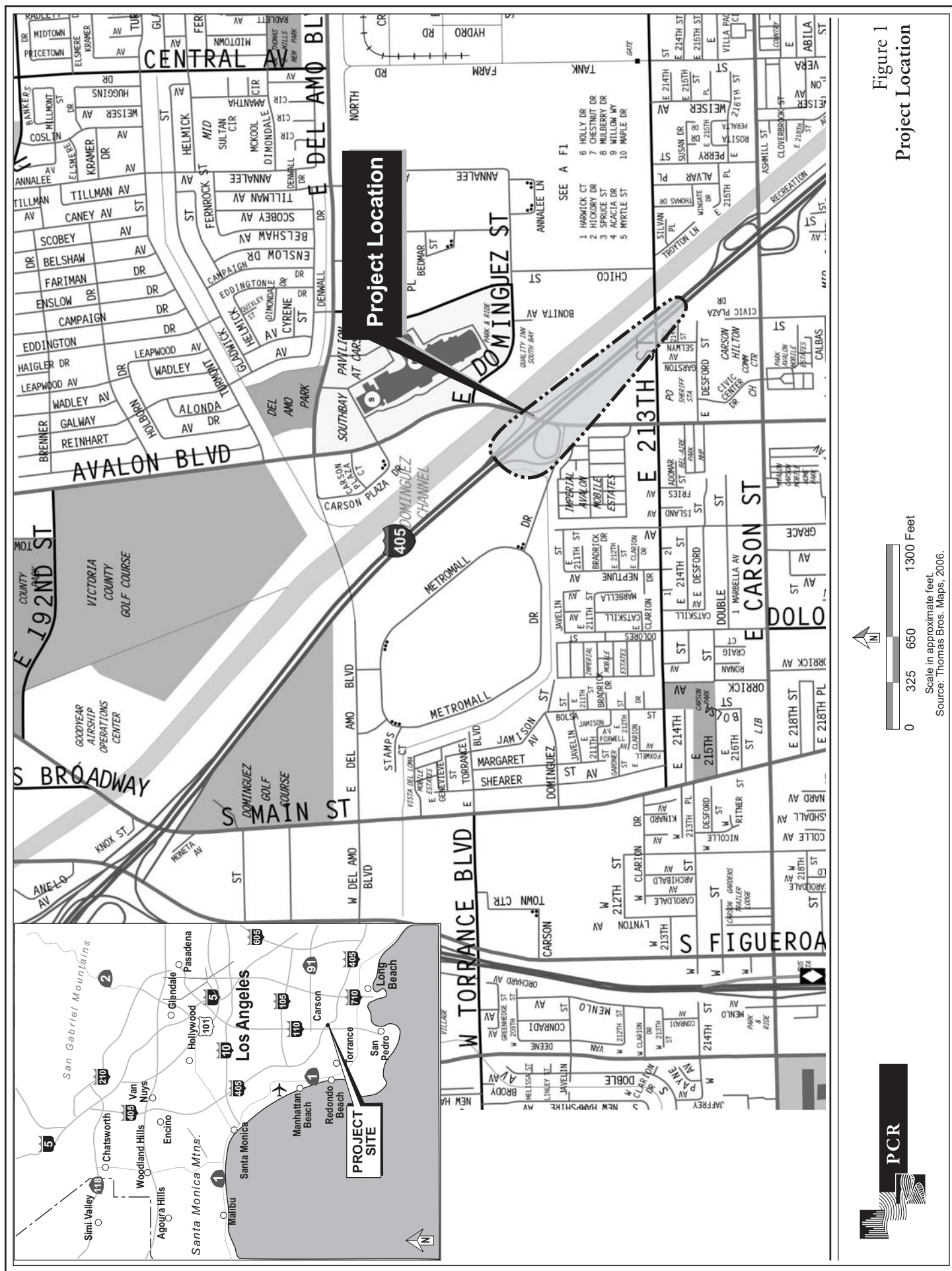
The overall number of trips goes down as southbound traffic can enter and leave the Carson Marketplace site directly without a circuitous route via Del Amo Boulevard and through the intersection. See attached Table 1 for traffic data at all analyzed intersections.

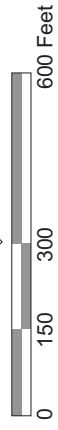
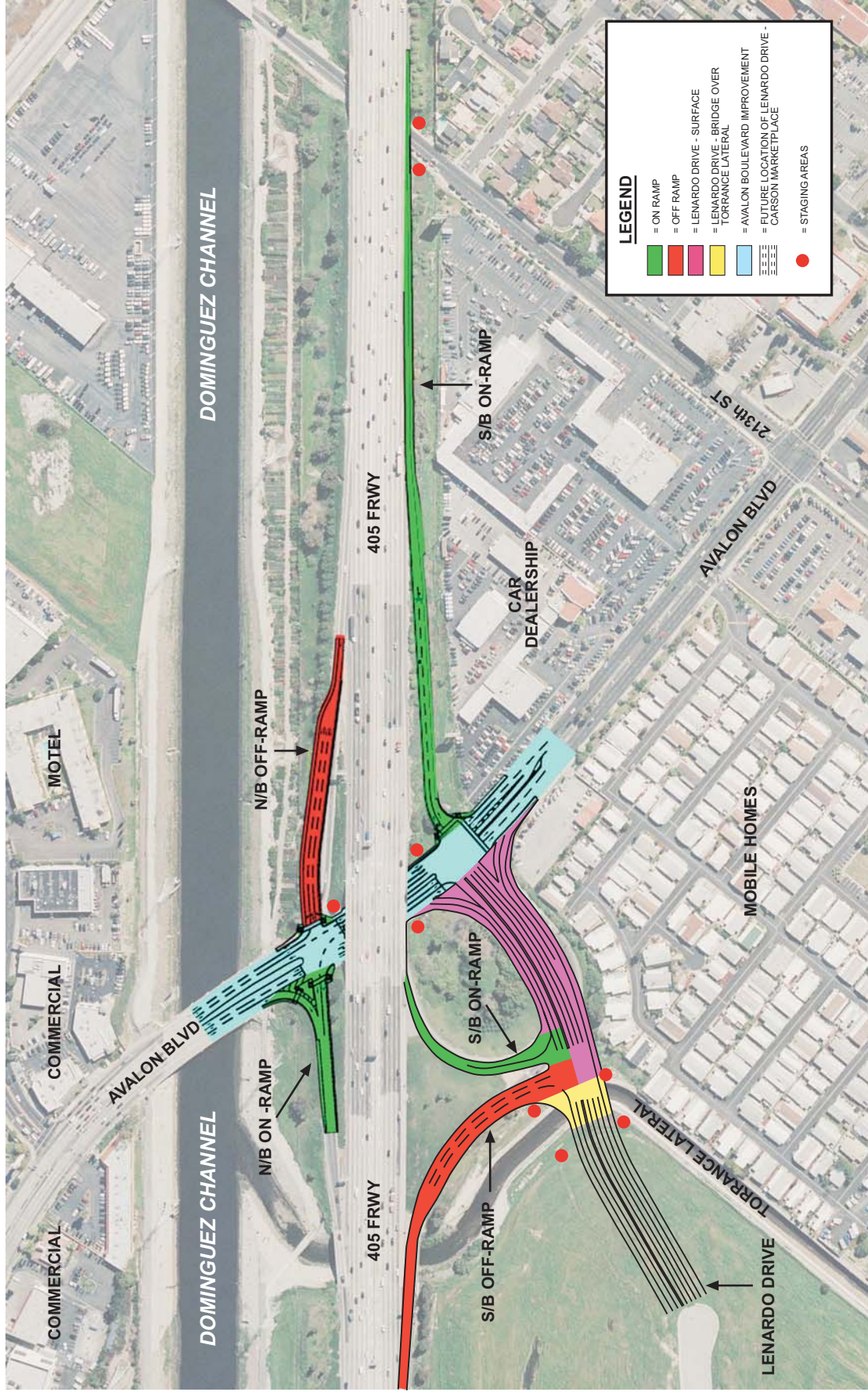
Delay time improvements

In addition to improvements in LOS and traffic volumes, the delay time through the surrounding intersections would also decrease substantially as shown in the attached Table 2. Delay times will decrease or stay the same at nine of the 14 analyzed intersections. The net delay time decreases by over 40 minutes during peak traffic hours. This decrease in delay time reduces the number of idling vehicles, thereby reducing the emissions of PM_{2.5} and PM₁₀. T

Comments/Explanation/Details (*attach additional sheets as necessary*)

This project proposes to provide access to the future Carson Marketplace and improve traffic operations at the I-405 and Avalon Blvd interchange by extending Lenardo Dr and realigning, widening, and constructing ramps at and within the interchange. The interchange is located in an urban area with a mix of residential and commercial uses. As indicated in the traffic data, the I-405/Avalon Blvd interchange will not experience significant truck traffic volumes in the projected future years. In addition, the project proposes to reduce the overall number of trips and significantly reduce the net delay time by over 40 minutes by 2030, which in turn, will result in reduction of idling vehicles and reduction of diesel emissions including fine dust. Based on the information provided in this review form (with low truck volumes projected, reduced number of trips, and improved net delay), it is believed that the project is not a project of air quality concern.





Scale in approximate feet.
Source: DMM Harris, 2006.



Figure 2
Project Features

Table 1
Traffic Data - All Intersections

	2010								2030							
No Build					Build				No Build				Build			
LOS			AADT	Truck AADT	LOS		AADT	Truck AADT	LOS		AADT	Truck AADT	LOS		AADT	Truck AADT
Intersection Location	A M	P M			A M	P M			A M	P M			A M	P M		
I-405 NB Ramps & Carson Street	A	A	34,318	824	A	A	37,822	908	A	A	40,433	970	A	A	36,877	885
I-405 SB Ramps & Carson Street	A	B	37,861	909	A	A	44,724	1,073	A	B	47,651	1,144	A	A	40,709	977
Avalon Boulevard & Carson Street	C	E	66,982	1,608	C	D	75,394	1,809	D	E	80,577	1,934	C	D	72,034	1,729
Main Street & Carson Street	D	F	69,790	1,675	D	E	79,160	1,900	D	F	83,976	2,015	D	F	74,619	1,791
Avalon Boulevard & 213th Street	B	C	51,483	1,236	B	C	53,780	1,291	B	C	57,625	1,383	B	C	55,210	1,325
Avalon Boulevard & I- 405 NB Ramps	A	B	68,255	1,638	B	D	70,814	1,700	A	B	75,066	1,802	B	D	72,572	1,742
Avalon Boulevard & Lenardo Drive/I- 405 SB On- Ramp	B	A	67,034	1,609	B	B	59,409	1,426	B	B	63,176	1,516	B	B	70,525	1,693
I-405 SB Ramps & Lenardo Drive	-	-	42,336	1,016	B	B	25,302	607	-	-	-	-	B	B	43,714	1,049
Main Street & Torrance Boulevard	E	F	48,163	1,156	D	D	59,816	1,436	E	F	62,480	1,500	E	E	50,827	1,220
Main Street & Lenardo Drive	B	D	43,937	1,054	A	B	56,496	1,356	B	D	58,399	1,402	A	B	45,840	1,100
Avalon Boulevard & Del Amo Boulevard	D	F	65,472	1,571	C	D	75,879	1,821	D	F	80,486	1,932	C	E	70,066	1,682
Stamps Drive & Del Amo Boulevard	C	E	55,604	1,334	C	C	66,234	1,590	C	E	67,493	1,620	C	C	56,864	1,365
Main Street & I- 405 NB Off- Ramp	B	B	33,425	802	B	B	33,425	802	B	B	35,722	857	B	B	35,722	857
Main Street & I- 405 SB On- Ramp	A	B	35,604	854	A	B	35,604	854	A	B	38,084	914	A	B	38,084	914
TOTAL			720,262	17,286			773,858	18,573			791,168	18,988			763,661	18,328

TABLE 2
DESIGN YEAR (2030) INTERSECTION LEVEL OF SERVICE ANALYSIS

			2030					
Intersection		Peak	No Build Alternative		Build Alternative		Change in Delay	Significant Impact?
		Hour	Delay ^[1]	LOS ^[2]	Delay ^[1]	LOS ^[2]		
1	Carson St &	AM	5.6	A	6.3	A	0.7	No
	I-405 N/B Ramps	PM	5.0	A	5.4	A	0.4	No
2	Carson St &	AM	9.8	A	6.4	A	-3.4	No
	I-405 S/B Ramps	PM	16.7	B	6.9	A	-9.8	No
3	Avalon Bl &	AM	49.4	D	29.5	C	-19.9	No
	Carson St	PM	66.0	E	47.3	D	-18.7	No
4	Main St &	AM	44.2	D	40.2	D	-4.0	No
	Carson St	PM	162.0	F	82.9	F	-79.1	No
5	Avalon Bl &	AM	17.4	B	17.5	B	0.1	No
	213th St	PM	25.7	C	33.4	C	7.7	No
6	Avalon Bl &	AM	7.0	A	12.2	B	5.2	No
	I-405 N/B Ramps	PM	19.7	B	53.7	D	34.0	No
7	Avalon Bl &	AM	13.5	B	17.3	B	3.8	No
	Lenardo Dr/I-405 S/B On-Ramp	PM	10.9	B	17.8	B	6.9	No
8	Lenardo Dr &	AM	Future		16.6	B	Not Applicable	
	I-405 S/B Ramps	PM	Intersection [3]		16.3	B		
9	Main St &	AM	85.2	E	56.7	E	-28.5	No
	Torrance Bl	PM	114.2	F	64.7	E	-49.5	No
10	Main St &	AM	10.4	B	7.6	A	-2.8	No
	Lenardo Dr	PM	53.8	D	16.8	B	-37.0	No
11	Avalon Bl &	AM	42.1	D	32.6	C	-9.5	No
	Del Amo Bl	PM	98.4	F	71.8	E	-26.6	No
12	Stamps Dr &	AM	24.9	C	21.7	C	-3.2	No
	Del Amo Bl	PM	77.4	E	34.1	C	-43.3	No
13	Main St &	AM	15.7	B	15.7	B	0.0	No
	I-405 N/B Ramps	PM	13.6	B	13.6	B	0.0	No
14	Main St &	AM	9.9	A	9.9	A	0.0	No
	I-405 S/B Ramps	PM	17.9	B	17.9	B	0.0	No

Notes:

[1] Average delay in seconds per vehicle.

[2] Level of service (LOS) calculated using 2000 Highway Capacity Manual level-of-service methodology.

[3] Intersection does not exist; to be constructed as part of I-405/Avalon interchange improvement project.